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DATE: March 16, 2005

Our Ref.: KCX-290
K-C Ref.: 15083
USSN: 09/772,282
Filed: January 29, 2001

TO: Examiner Steve Alvo
USPTO

At Telecopier No.: (703) 872-9306

Pages (including this cover sheet): 24

FROM: Bernard S. Klosowski, Jr.

MESSAGE: Please see the attached Appeal Brief, as well as a copy of the date-stamped return receipt postcard, for the above-referenced patent application.

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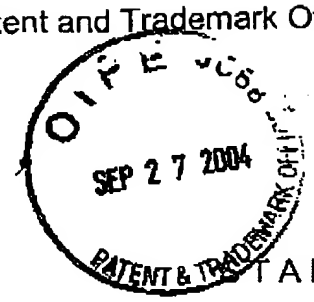

1. Check ($330.00)
2. Appeal Brief Cover Sheet (1 sheet)
3. Appeal Brief (21 sheets)

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RE: U.S. Utility Patent Application
Title: "Method and Apparatus for Imaging a Paper Web"
Serial No.: 09/772,282
Filed: January 29, 2001
Our Reference No.: KCX-290 (15083) September 23, 2004

DM-10/2003

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Re: Appeal to the Board of Patent Appeals and Interferences

In re Application of: Allen et al. Group Art Unit: 1731

Serial No.: 09/772,282 Examiner: Alvo, Marc S.

Filed: January 29, 2001 Our Customer ID: 22827

For: "Method and Apparatus for Imaging a Paper Web" Our Account No.: 04-1403

Sir: Attorney Ref.: KCX-290 (15083)

1. [ ] **NOTICE OF APPEAL**: Pursuant to 37 CFR 1.191, Applicant hereby appeals to the Board of Appeals from the decision dated ____ of the Examiner twice/finally rejecting claims _____ .
2. [X] **BRIEF** on appeal in this application pursuant to 37 CFR 1.192 is transmitted herewith in triplicate.
3. [ ] An **ORAL HEARING** is respectfully requested under 37 CFR 1.194 (due within one month after Examiner's Answer).
4. [ ] Reply Brief under 37 CFR 1.193(b) is transmitted herewith in triplicate.
5. [ ] "Small entity" verified statement filed: [ ] herewith [ ] previously.
6. **FEE CALCULATION:**

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By: Bernard S. Klosowski, Jr. Reg. No.: 47,710
Signature: _____
Date: September 23, 2004

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: MAIL STOP APPEAL BRIEF – PATENTS, Commissioner for Patents, U.S. Patent and Trademark Office, Post Office Box 1450, Alexandria, VA 22313-1450, on September 23, 2004.

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ATTORNEY DOCKET NO.: KCX-290 (KC 15083)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Allen, et al.	Examiner: Alvo, M.
Application No.: 09/772,282	Art Unit: 1731
Filed: January 29, 2001	Our Account No.: 04-1403
Confirmation No.: 9284	Our Customer ID: 22827
For: Method And Apparatus For Imaging A Paper Web	

APPEAL BRIEF

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner of Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellants hereby submit this Appeal Brief in accordance with 37 CFR § 1.192 for the above-captioned application. The Notice of Appeal was filed on August 11, 2004, in accordance with 37 CFR § 1.191.

If any fee or extension of time is required to obtain entry of the Appeal Brief, Appellants hereby petition the Commissioner to grant any necessary time extension, and the undersigned hereby authorizes the Commissioner to pay from Deposit Account No. 04-1403, any such fee not submitted herewith.

1. REAL PARTY IN INTEREST.

By assignment recorded on March 5, 2002, at reel 012674, frame 0018, in the United States Patent and Trademark Office, the real party in interest is Kimberly-Clark Worldwide, Inc.

2. RELATED APPEALS AND INTERFERENCES.

Appellants are not aware of any other appeals or interferences that will directly affect or have a bearing on the Board's decision in this appeal.

3. STATUS OF CLAIMS.

Claims 1-27 are pending in the present application, including independent Claims 1, 12 and 26. Claims 1-27 involved in this appeal are listed in the attached Appendix.

The application was filed on January 29, 2001, with Claims 1-22. On May 10, 2002, an Amendment was filed amending certain claims and adding new Claims 23-27 in response to an Office Action dated December 13, 2001.

A Final Office Action was mailed July 27, 2004, twice/finally rejecting Claims 1-27 under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. Additionally, Claims 1-4 and 7-9 were rejected in the Final Office Action under 35 U.S.C. §103(a) as allegedly obvious over Parker (U.S. Pat. No. 5,745,365) with or without Houston et al. (U.S. Pat. No. 4,931,657) or Rule, Jr. (U.S. Pat. No. 6,129,817) or Bialkowski (U.S. Pat. No. 4,500,968) with or without SHERLOCK® (Appellants' specification, p. 15, ll. 5-8); Claim 5 was rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Parker as applied to Claim 1 above, and further in view of Rule, Jr.; Claim 5 was further rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Parker with or without Houston et al. or Bialkowski as applied to Claim 1 above, and in further view of Rule, Jr.; Claims 6 and 10-25 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Parker with or without Houston et al. or Rule, Jr. or Bialkowski as applied to Claim 1 above, and further in view of allegedly Admitted Prior Art (Appellants' specification, p. 14, ll. 8-13, p. 11, ll. 4-6, paragraph bridging pp. 9-10, p. 10, ll. 9-21, and Request for Reconsideration, filed December 18, 2002, pp.

1-2); Claims 26-27 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Parker as applied to Claim 1 above, and further in view of Bialkowski; and Claims 26-27 were further rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Parker and Houston et al. or Rule, Jr. as applied to Claim 1 above, and further in view of Bialkowski.

Accordingly, Appellants are appealing the final rejection of Claims 1-27.

4. STATUS OF AMENDMENTS.

All amendments filed by Appellants have been entered into the record.

5. SUMMARY OF THE INVENTION.

The invention is generally directed to methods of monitoring web formation in a web forming process. The web can be, for instance, a paper product. As stated in the present specification on page 6, the term "formation" refers to the uniformity of distribution of fibers in the sheet that is formed.

In one embodiment, the method includes the steps of depositing a slurry of fibers upon a forming fabric. A light is emitted from a light source onto a first side of the wet web. The light reflected from the first side of the web is fed to a camera that forms a pattern of reflected light. A visual image is then formed of the wet web corresponding to the pattern of the reflected light.

Through the process of the present invention, a true two-dimensional, optical image of the formed web can be produced, stored and manipulated very early in the paper making process, prior to other process steps which can influence formation measurements. For instance, an operator can view the formed image prior to web completion and adjust various parameters in the web making system for improving the formation of the web.

6. **ISSUES.**

A. Are Claims 1-4 and 7-9 obvious under 35 U.S.C. §103(a) as unpatentable over Parker with or without Houston et al. or Rule, Jr. or Bialkowski with or without SHERLOCK®?

B. Is Claim 5 obvious under 35 U.S.C. §103(a) as unpatentable over Parker as applied to Claim 1 above, and further in view of Rule, Jr.?

C. Are Claims 6, 10 and 11 obvious under 35 U.S.C. §103(a) as unpatentable over Parker with or without Houston et al. or Rule, Jr. or Bialkowski as applied to Claim 1 above, and further in view of allegedly Admitted Prior Art?

D. Are Claims 12-25 obvious under 35 U.S.C. §103(a) as unpatentable over Parker with or without Houston et al. or Rule, Jr. or Bialkowski as applied to Claim 1 above, and further in view of allegedly Admitted Prior Art?

E. Are Claims 26-27 obvious under 35 U.S.C. §103(a) as unpatentable over Parker as applied to Claim 1 above, and further in view of Bialkowski?

F. Do Claims 1-27 fail to comply with the written description requirement under 35 U.S.C. §112, first paragraph?

7. **GROUPING OF CLAIMS.**

It is to be understood that this appeal is of all Claims 1-27, each individually patentable. The rejected Claims 1-27 do not stand or fall together. The following claim groupings make an effort to simplify the appeal by gathering common elements of Appellants' claims into groupings, which will be discussed herein.

1) Claims 1-4 and 7-9

2) Claims 5 and 6

3) Claim 10

4) Claim 11

5) Claims 12-25

6) Claims 26-27

8. **ARGUMENTS.**

A. Claims 1-4 and 7-9 are not obvious under 35 U.S.C. §103(a) in view of Parker with or without Houston et al. or Rule, Jr. or Bialkowski with or without SHERLOCK®.

To establish a *prima facie* case of obviousness there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Manual of Patent Examining Procedure, page 700-31 (8th ed., August 2001). The mere fact that the prior art could be modified to achieve the present invention does not make the claim obvious. In re Laskowski, 871 F.2d 115, 10 U.S.P.Q. 2d 1397 (Fed. Cir. 1989); In re Mills, 916 F.2d 680, 16 U.S.P.Q. 2d 1430 (Fed. Cir. 1990).

Thus, the question of obviousness is not simply a question of finding references that, if combined, would include the necessary limitations. Instead, the Federal Circuit has consistently held that the question of obviousness requires a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. See, e.g., McGinley v. Franklin Sports, Inc., 262 F.3d 1339, 60 U.S.P.Q. 2d 1001 (Fed. Cir. 2001) ("the central question is whether there is reason to combine references"). See also In re Gordon, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984) (for a claim to be obvious in view of a modification of prior art, there must be some suggestion that it would be desirable to make such a modification) and In re Denbiczak, 175 F.3d 994, 50 U.S.P.Q. 2d 1614 (Fed. Cir. 1999) ("actual evidence" of a

suggestion, teaching, or motivation to combine references must be provided, and must be "clear and particular," broad conclusory statements standing alone are not evidence). In the present case, the Examiner has not pointed to any qualifying suggestion or appropriate source of motivation to modify Parker with or without Houston et al. or Rule, Jr. or Bialkowski to render Appellants' invention obvious.

Claim 1, for instance, recites a method of measuring paper formation or distribution in a papermaking process, comprising: (a) providing a forming fabric; (b) depositing a paper slurry upon the forming fabric to form a wet web; (c) transmitting light from a light source upon a first side of the wet web; (d) reflecting the light from the first side of the wet web to a camera, thereby forming a pattern of reflected light; (e) forming a visual image of the wet web corresponding to the pattern of the reflected light; and (f) utilizing the pattern of reflected light to which the visual image corresponds to control paper formation in the wet web. The base reference Parker does not disclose or suggest each and every step recited by Claim 1.

In stark contrast to Claim 1, Parker is directed in general to a fundamentally different apparatus for monitoring a web in a paper making machine, which uses a "looker", not a camera as presently claimed. In fact, an "image" in Parker is not a camera image at all. "The basic principle in the preferred embodiment is to illuminate brightly an area of the web and focus its image on the ends of fibre optics arranged in a long row across the web.... The light from bunches of these fibre optics is directed onto photodetectors (preferably photodiodes) (not shown) to obtain **electrical signals** corresponding to the variations in the paper web." Col. 6, l. 51-58 of Parker.

As the Final Office Action admits, Parker also does not use reflected light to measure paper formation since to do so the base reference must be combined with one or more secondary

references as stated on page 3 of the Final Office Action. Although the Final Office Action states that Parker teaches forming an image from reflected light at col. 6, ll. 40-44, Appellants respectfully submit that such reliance for obviousness is misplaced. As noted above, Parker teaches obtaining electrical signals, which are utilized by DSP boards to detect variations in the web. Specifically, at col. 4, ll. 11-22, Parker teaches digitally processing its signals and forming tables and graphs to show variations and faults in a web. By way of further example, Parker teaches that electrical signals are multiplexed, filtered (smoothed), and sampled (digitized) "for analysis by a computer" (see col. 9 et seq. and col. 10, ll. 21-23). Thus, Parker is clearly not directed to the visual image recited by Appellants' Claim 1.

As introduced, Parker also fails to disclose or suggest the use of cameras for forming the visual image of the wet web. The Final Office Action concedes this deficiency by alleging that the photo detectors of Parker "do not substantially differ" from the camera presently recited by Claim 1. In other words, **photo detectors *are* different from cameras** in accordance with the admitted degree of difference.

Simply stated, the base reference Parker does not disclose each and every step recited by Claim 1 such as the steps of reflecting light to a camera and forming a visual image with the reflected light to control paper formation in the wet web.

The Final Office Action leaps to the conclusion that it would have been obvious to use reflected light in Parker as taught by or Houston et al. or Rule, Jr. As a threshold matter, however, Appellants respectfully submit that one skilled in the art would not have been motivated to fundamentally alter or replace the lookers considered essential in Parker to obtain electrical signals corresponding to the variations in the paper web in order to make use of the reflected light. Alteration or replacement of the lookers would destroy the function of obtaining

electrical signals and render the Parker apparatus unsatisfactory for its intended purpose of correlating those electrical signals to variations in the paper web.

Moreover, if a proposed modification or combination of prior art would change the principle of operation of the prior art invention if modified, then the teachings of the references are not sufficient to render claims *prima facie* obvious. See In re Ratti, 270 F.2d 810, 123 U.S.P.Q. 349 (CCPA 1959). In the present case, wholesale removal and replacement of the Parker "lookers" for obtaining electrical signals with cameras for forming an image using the reflected light is a complete redesign and reconstruction of the Parker apparatus. Such reconstruction changes the basic principle under which the Parker construction was designed to operate. 270 F.2d at 813. Thus, Appellants respectfully submit that Parker is an insufficient reference that one skilled in the art simply would not have looked to in the first place and have found motivation to fundamentally alter that reference's completely different construction. Therefore, the teachings of Parker, with or without Houston et al. or Rule, Jr., are insufficient to render Claim 1 *prima facie* obvious.

Ignoring the wholesale, impermissible reconstruction of Parker for the sake of argument, Houston et al. fails to remedy the deficiencies of Parker. The Final Office Action states that it would have been "especially obvious" to use reflected light as taught by Houston et al. to measure paper formation. To the contrary, Houston et al. expressly does **not** teach using reflected light to measure web formation. "A different arrangement of similar equipment is required to measure formation." Col. 6, ll. 50-51. More specifically, the secondary reference discloses a formation tester that requires that a strobe light be positioned on the opposite side of a paper web from a camera. "To determine formation and blackening, the strobe light illuminates the web from one side of the web with the video camera directed at the opposite side

of the web." Col. 3, lines 38-41. Thus, Appellants respectfully submit Houston et al. fails to remedy each and every deficiency of Parker including forming a visual image with the reflected light to control paper formation in the wet web.

Moreover, Appellants respectfully submit that even if one skilled in the art were to completely change the principle of operation of Parker by replacing its lookers with cameras and then positioning the strobe light of Houston et al. on the same side of the web to reflect light to control paper formation in the wet web, this could only be accomplished using impermissible hindsight afforded by Claim 1.

In making an obviousness determination, to give one of ordinary skill in the art knowledge of the invention, when no prior art references convey or suggest that knowledge, "is to fall victim to the insidious effect of a hindsight syndrome where that which only the inventor taught is used against the teacher." W.L. Gore & Assocs., Inc v. Garlock, Inc., 721 F.2d 1540, 1533, 220 U.S.P.Q. 303, 312-13 (Fed. Cir. 1983). Absent Appellants' disclosure, there is simply no motivation for one skilled in the art to modify Parker with Houston et al. such that it calls for cameras and reflected light to image web formation. The only place that the Examiner could have attained that motivation is through Appellants' own disclosure. Accordingly, the Examiner's case for obviousness based on these two references is supported solely by hindsight provided by Appellants' disclosure and is insufficient to render the claims unpatentable in view of 35 U.S.C. §103(a). In re Vaeck, 947 F.2d 488, 20 U.S.P.Q. 2d 1438 (Fed. Cir. 1991) (the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicant's disclosure).

Rule, Jr. likewise fails to remedy the deficiencies of Parker with or without Houston. Like Houston, Rule, Jr. teaches placing a plurality of lights on an opposite side of a sheet. More

specifically, Rule, Jr. clearly teaches measurement of a dry sheet without a backing material, which would make acquisition of a formation image impossible. Further, all examples in this secondary reference use transmitted light through the sheet.

Moreover, Appellants respectfully submit that one skilled in the art would not have found motivation in Rule, Jr. to fundamentally alter Parker. As discussed above, reconstructing the lookers of Parker, which are intended to measure electrical conductivity, with the substantially different line scan camera of Rule, Jr. would change the principle of operation of the prior art invention if modified; thus, the teachings of the references are not sufficient to render Claim 1 *prima facie* obvious. Moreover, Appellants respectfully submit that such motivation in the prior art could only be found using impermissible hindsight afforded by Appellants' invention.

Bialkowski also does not remedy the deficiencies of Parker with or without Houston or Rule, Jr. Bialkowski discloses an optical sensor **for determining the location of the wet line** of a paper machine, but does not disclose forming a visual image with reflected light to control paper formation in a wet web. Accordingly, Parker and Bialkowski do not disclose each and every step of Claim 1. Furthermore, removing and replacing the lookers of Parker with the optical sensor of Bialkowski would, like the Rule, Jr. line scan camera discussed above, fundamentally alter Parker as it is suited for its intended purpose of correlating electrical signals to variations in the paper web.

As introduced above, Appellants respectfully submit that the original detailed description merely provided best mode examples for various elements and steps of the invention. Appellants' best mode examples, such as SHERLOCK® for machine vision software, were **adapted by the Appellants to a different industry for an entirely different purpose**. The fact that unmodified components such as SHERLOCK® existed but were never adapted for use in

Appellants' industry until the unique combination was invented by the Appellants only serves as further evidence of the non-obviousness of Appellants' invention in Claim 1.

Appellants respectfully submit that one of ordinary skill in the art, when presented with the references of record, would not have been motivated to combine the references since the principle of operation of the primary reference, Parker, would be fundamentally changed. It is respectfully submitted there would be no incentive to do so.

Appellants respectfully submit that there is an absence of teaching in the prior art regarding the claimed invention, and the Examiner is simply using Appellants' own disclosure against Appellants. Such hindsight reconstruction is not permitted. Thus, the Examiner has failed to establish a *prima facie* case of obviousness for Claim 1.

Dependent Claims 2-4 and 7-9 depend directly or indirectly from independent Claim 1. If an independent claim is non-obvious under 35 U.S.C. §103(a), then any claim depending therefrom is non-obvious. In re Fine, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596 (Fed. Cir.1988).

C. Claims 5 and 6 are not obvious under 35 U.S.C. §103(a) over Parker as applied to Claim 1 above, and further in view of Rule, Jr.

Claim 5 only further patentably defines Appellants' invention and is non-obvious under §103(a) over the cited references alone or in any combination for at least the reasons discussed above with respect to Claim 1. More specifically, Rule, Jr. fails to cure Parker to form an image by receiving reflected light in the line scan camera. Rule, Jr. clearly teaches measurement of a dry sheet without a backing material. As taught, the method provides neither contrast nor translucency to allow for acquisition of a formation image using reflected light. In fact, all of the examples and illustrations in Rule, Jr. use transmitted light; therefore, it is impossible to use reflected light and make the measurement Rule, Jr. seeks.

Thus, Appellants respectfully request removal of the rejection to Claim 5 and indication of its allowance and allowance of Claim 6 dependent thereon. In re Fine, 837 F.2d 1071.

D. Claim 10 is not obvious under 35 U.S.C. §103(a) over Parker with or without Houston et al. or Rule, Jr. or Bialkowski as applied to Claim 1 above, and further in view of allegedly Admitted Prior Art.

Claim 10 only further patentably defines Appellants' invention and is non-obvious under §103(a) over the cited references alone or in any combination for at least the reasons discussed above with respect to Claim 1.

Appellants respectfully reiterate that Appellants' best mode examples are not prior art. For instance, machine vision software was used in a completely different industry of diaper manufacturing in which webs are known to travel at hundreds of feet per minute to identify adhesive tape and elastic locations. Appellants adapted its best mode example of machine vision software to Appellants' industry in which imaging a wet web at a speed of at least about 4000 feet/minute to identify gray area tissue formation is not a trivial effort.

Absent Appellants' disclosure, there is simply no motivation for one skilled in the art to modify Parker such that it calls for cameras and reflected light to image web formation at thousands of feet per minute. The only place that the Examiner could have attained that motivation is through Appellants' own disclosure. Accordingly, the Examiner's case for obviousness based on Parker and other cited patents is supported solely by hindsight provided by Appellants' disclosure and is insufficient to render the claims unpatentable in view of 35 U.S.C. §103(a). In re Vaeck, 947 F.2d 488, 20 U.S.P.Q. 2d 1438 (Fed. Cir. 1991) (the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicant's disclosure).

Thus, Appellants respectfully request removal of the rejection to Claim 10 and indication of its allowance.

E. Claim 11 is not obvious under 35 U.S.C. §103(a) over Parker with or without Houston et al. or Rule, Jr. or Bialkowski as applied to Claim 1 above, and further in view of allegedly Admitted Prior Art.

Claim 11 only further patentably defines Appellants' invention and is non-obvious under §103(a) over the cited references alone or in any combination for at least the reasons discussed above with respect to Claim 1. Moreover, none of the cited references teach or suggest use of a fabric that is black in color for forming a visual image with reflected light to control paper formation in a wet web.

Thus, Appellants respectfully request removal of the rejection to Claim 11 and indication of its allowance.

F. Claims 12-25 are not obvious under 35 U.S.C. §103(a) over Parker with or without Houston et al. or Rule, Jr. or Bialkowski as applied to Claim 1 above, and further in view of allegedly Admitted Prior Art.

Appellants respectfully submit that Claim 12 and its dependent Claims 13-25 only further describe and distinctly claim their respective inventions and are patentable over the cited references for at least the reasons discussed above with regard to Claim 1.

Accordingly, Appellants respectfully request withdrawal of the rejection and allowance of Claims 12-25.

G. Claims 26-27 are not obvious under 35 U.S.C. §103(a) over Parker as applied to Claim 1 above, and further in view of Bialkowski.

Appellants respectfully submit that Claim 26 and its dependent Claim 27 further particularly describe and distinctly claim their respective inventions and are patentable over the cited references for at least the reasons discussed above with regard to Claim 1.

Accordingly, Appellants respectfully request withdrawal of the rejection and allowance of Claims 26-27.

F. Claims 1-27 comply with the written description requirement under 35 U.S.C. §112, first paragraph.

Appellants respectfully submit that the subject matter is described in the specification to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The enablement inquiry focuses on what the skilled artisan would understand, and the specification "need not teach, and preferably omits what is well known in the art." Spectra-Physics, Inc. v. Coherent, Inc., 3 U.S.P.Q.2d 1737,1743 (Fed. Cir. 1987), cert. denied, 484 U.S. 954 (1987). A specification complies with the enablement requirement, even if it requires the skilled artisan to engage in a "reasonable" amount of routine experimentation, so long as such experimentation is not "undue." See, e.g., In re Wands, 8 U.S.P.Q.2d 1400, 1404 (Fed. Cir. 1988). The "Wands factors" determine whether a disclosure requires undue experimentation: (1) the quantity of experimentation necessary; (2) the amount of direction or guidance presented; (3) the presence or absence of working examples; (4) the nature of the invention; (5) the state of the prior art; (6) the relative skill of those in the art; (7) the predictability or unpredictability of the art; and (8) the breadth of the claims. Id.

Respectfully, Appellants' disclosure taken as a whole originally disclosed and clearly describes utilizing the pattern of reflected light to which the visual image corresponds to control paper formation in the web. The present specification, for instance, at page 8, lines 22-30; page

9, lines 1-24; and page 12, lines 18-23, clearly enables the skilled artisan to make and use the inventions claimed by Claims 1-27 without undue experimentation. More particularly, if the images of the present invention suggest a need to the skilled artisan to adjust the consistency of the slurry of fibers upon the forming fabric, for example, the skilled artisan understands how to make the adjustment such as by varying water content of the web. (See also Appellants' specification, p. 13, ll. 11-15.) Every step known to the skilled artisan need not be included in the specification. Spectra-Physics, Inc., 3 U.S.P.Q.2d at 1743. Routine experimentation is acceptable. In re Wands, 8 U.S.P.Q.2d at 1404.

Thus, Appellants respectfully submit that Claims 1-27 comply with 35 U.S.C. §112, first paragraph, and respectfully request withdrawal of this rejection, reconsideration and allowance of Claims 1-27.

9. CONCLUSION: *PRIMA FACIE* OBVIOUSNESS BASED ON PARKER WITH OR WITHOUT SECONDARY REFERENCES HAS NOT BEEN ESTABLISHED.

The Examiner ignores the proposition that *prima facie* obviousness is not made out where a proposed modification or combination of prior art would change the principle of operation of the prior art invention if modified. See In re Ratti, 270 F.2d 810, 123 U.S.P.Q. 349 (CCPA 1959). In the present case, by changing the "lookers" of Parker, which are designed to obtain electrical signals, and replace them with cameras to form visual images is a substantial redesign of the elements and a change in the basic principle under which Parker was designed to operate. 270 F.2d at 813.

As the Examiner has failed to make out a *prima facie* case against any of the Claims 1-27, Appellants respectfully submit that the final rejection of the claims should be reversed, and that Claims 1-27 be allowed to issue in a United States Patent.

Respectfully submitted,

DORITY & MANNING, P.A.

9-23-04
Date:

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APPENDIX

(CLAIMS INVOLVED IN APPEAL)

1. A method of measuring paper formation or distribution in a papermaking process, comprising:

(a) providing a forming fabric;

(b) depositing a paper slurry upon the forming fabric to form a wet web;

(c) transmitting light from a light source upon a first side of the wet web;

(d) reflecting the light from the first side of the wet web to a camera, thereby forming a pattern of reflected light;

(e) forming a visual image of the wet web corresponding to the pattern of the reflected light; and

(f) utilizing the pattern of reflected light to which the visual image corresponds to control paper formation in the wet web.

2. The method of claim 1 further comprising the step of moving the wet web longitudinally through the light pathway to facilitate the impingement of light upon the surface of the wet web.

3. The method of claim 1 in which the light source comprises a light line.

4. The method of claim 1 in which there are at least two independent sources of light.

5. The method of claim 1 in which the step of forming an image further comprises receiving the reflected light in a line scan camera.

6. The method of claim 5 in which the camera operates at a speed of at least about 50,000 Hz.

7. The method of claim 6 in which pixels are generated in forming the image.

8. The method of claim 7 in which the web comprises a water content of at least about 80% water during the reflecting step.

9. The method of claim 8 in which the web comprises a water content of between about 80% to about 95%.

10. The method of claim 2 in which the wet web moves at a speed of at least about 4000 feet/minute.

11. The method of claim 10 in which the forming fabric is black in color.

12. A method for measuring paper formation in real time on a papermaking process, comprising:

(a) providing a rotating forming fabric having an upper and lower surface;

(b) depositing a paper slurry upon the upper surface of the forming fabric to establish a wet paper web, the wet paper web moving at a speed of at least about 4000 feet per minute;

(c) transmitting light from a light source upon the upper surface of the wet paper web;

(d) reflecting light from the upper surface of the wet paper web to a camera thereby forming a pattern of reflected light;

(e) forming a visual image of the wet paper web corresponding to the pattern of the reflected light; and

(f) utilizing the pattern of reflected light to which the visual image corresponds to measure paper formation in the wet web.

13. The method of claim 12 in which the image is displayed upon a computer monitor.

14. The method of claim 12 in which the camera sends to a computer signals representing light received by the camera, further wherein the computer comprises a processor, whereby the processor of the computer compares said signals with predetermined stored values to determine the degree of deviation of the formation of the paper web from desired paper web formation values.

15. The method of claim 14 in which the processor is configured to adjust one or more papermaking parameters in real time to alter the characteristics of the wet web to cause the wet paper web to conform to desired paper web formation values.

16. The method of claim 15 in which the papermaking parameters comprise the group consisting of:

a) paper uniformity,

b) sheet water content,

c) stock impingement angle,

d) vacuum box position, and

e) forming fabric tension.

17. The method of claim 12 in which the wet web forms a paper having a weight of less than about 16 lbs/2880 ft^2.

18. The method of claim 12 in which the camera is a line scan camera, and the image formed is constructed by scanning lines of the image.

19. The method of claim 12 in which the light is transmitted from a light source upon the surface of the wet paper web at an impingement angle of between about 25 and 65 degrees.

20. The method of claim 12 in which more than one light source is employed to transmit light.

21. The method of claim 12 in which a vacuum box is employed to take water from the wet web while the wet web is moving along the surface of the rotating forming fabric.

22. The method of claim 12 in which light from the light source travels through at least one focusing lens before impinging upon the surface of the wet web.

23. The method of claim 1, wherein the forming fabric has a dark color.

24. The method of claim 12, wherein the forming fabric has a dark color.

25. The method of claim 12, wherein the forming fabric comprises a black color.

26. A method of measuring formation or distribution in a web forming process comprising the steps of:

providing a forming fabric;

depositing a slurry of fibers upon the forming fabric to form a wet web;

emitting light from a light source upon a first side of the wet web;

detecting reflected light from the wet web by a camera positioned in communication with the first side of the web, the camera forming a pattern of reflected light;

forming a visual image of the wet web corresponding to the pattern of the reflected light; and

based upon the formed visual image, adjusting one or more web making parameters in order to improve the web formation.

27. A method as defined in claim 26, wherein the web making parameter comprises machine speed, fiber furnish blend, stock freeness, basis weight, stock impingement angle, vacuum box position, or forming fabric tension.